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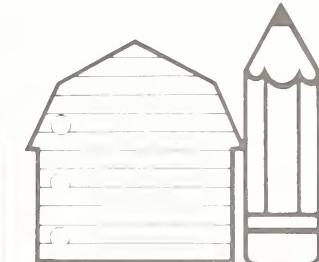
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# Ag in the Classroom

# Notes

United States  
Department of  
Agriculture



A bi-monthly newsletter for the Agriculture in the Classroom program. Sponsored by the U.S. Dept. of Agriculture to help students understand the important role of agriculture in the United States economy. For information, contact: Shirley Traxler, Director, Room 317-A, Administration Bldg., USDA, Washington, D.C. 20250-2200. 202/447-5727

Nov./Dec. 1989  
Vol. 6, No. 7

## Reaching Out To Preschool Teachers in Massachusetts

By the time some children reach kindergarten, they may be in their fourth year of attending school. The Massachusetts AITC program has begun to develop materials appropriate for preschoolers and to train preschool teachers in ways they can integrate agriculture into their regular curriculum.

"The earlier we can work with children to help them develop an awareness of agriculture, the better," says Wayne Hipsley, an Extension

Specialist for Classroom Programs and the Massachusetts state contact for AITC. At the request of preschool teachers in Franklin County, he began conducting teacher workshops for preschool teachers. Several more are planned for the coming year.

"We had no agriculture materials designed just for preschool," Hipsley says. "We're adapting activities developed for the primary

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## Minnesota Launches Teaching Awards Program, Develops Model Learner

"Teachers are doing wonderful things — but you won't hear about them unless you ask," says Al Withers, Program Director of Minnesota Agriculture in the Classroom (M-AITC). That was the reason for launching the "Excellence in Integrating Agriculture Teaching" Awards Program.

The awards program is designed to honor outstanding teaching practices of educators, encourage integration of agriculture and thus increase ag literacy, and provide a valuable financial incentive for educators. In the 1988-89 school year, M-AITC awarded \$2,200 to seven teachers throughout the state for their lessons, units, or courses that effectively integrated agriculture into one or more key subject areas.

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John Doyle, center, a sixth grade educator at Marshall (MN) Middle School, accepts his first place award in the elementary category of the new Excellence in Integrating Agriculture teaching awards program sponsored by Minnesota Agriculture in the Classroom. Congratulating Doyle are Al Withers, left, Program Director; and Dave Sorenson, Board Chair, M-AITC.

*From the Director*

# Happy Holidays

*Shirley Traxler and Kay Torrens*

## Oregon: Creative Skills Conference

Agriculture has become an increasingly technical profession. Creative and inventive thinking skills are required for anyone who wants to be a success. So when Oregon Agriculture in the Classroom learned about a National Creative and Inventive Thinking Skills Conference expected to attract several hundred educators, it seemed like a perfect opportunity to help teachers understand how agriculture is changing.

"I believe that farmers are probably the most inventive people in the entire country," says Loydee Grainger, chairperson of Oregon's AITC Board. "They're used to solving problems

everyday." But, Grainger adds, the public perception of agriculture doesn't always fit with the reality. By participating in the conference, the Oregon AITC board felt they could also help change attitudes towards agriculture.

The Creative and Inventive Thinking Skills Conference in Portland, Oregon, October 26-28 attracted more than 800 educators — including teachers, administrators, and curriculum specialists. Nearly all were particularly concerned about finding ways to educate gifted and talented students.

Oregon AITC set up and staffed a booth in the exhibit area. In addition to showing Oregon's AITC materials, the booth also included samples and order forms for materials developed in several other states. "Reactions of the conference participants were interesting," said Grainger. "Some obviously wondered why agriculture was represented at a thinking skills conference. But others got excited right away. We reached a number of educators we wouldn't have reached in any other way."

Sixty percent of the conference participants came from the Pacific Northwest. Others came from as far away as Florida, New York, and Texas. During the three-day conference, more than 150 copies of the Resource Guide were distributed to educators.

Grainger, a teacher, says she believes educators are attracted to the AITC materials because "they offer something new. It's always a challenge to make learning exciting," she says, "and Ag in the Classroom helps meet that challenge."

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Marlon, a student in Mrs. Annette Reid's kindergarten class at Davis Elementary School, Montgomery, Alabama, waters a pine seedling. Marlon and his classmates planted the seedlings as part of their study of Alabama agriculture. For a story on the Alabama AITC program, see the Sept./Oct. issue.



# Spotlight

## A Garden Grows in Queens



The title of the book may have been *A Tree Grows in Brooklyn*, but thanks to a dynamic third-grade teacher in New York City, a sequel might be titled, "A Garden Grows in Queens." Rhoda Gilbert, a teacher at P.S. 214 in Queens District 25, has introduced her students to agriculture — and gotten them so excited that they came to school during summer vacation.

Gilbert was first introduced to the idea of teaching about agriculture in her urban classroom when Betty Wolanyk, coordinator of AITC in New York, presented a workshop for teachers in her district. "We were looking for avenues to get agriculture introduced into the schools in New York City," Wolanyk says. "Rhoda was looking for ways to make her teaching more exciting. It was a good match."

Gilbert says one of her goals in teaching is to make students more aware of the environment. She decided to show let students learn about the important balance of nature by providing them small plants to grow in the classroom. When she saw how excited they were about caring for the plants, Gilbert took her students outside to plant a garden.

"We planted a wide variety of vegetables — everything from cabbages and carrots to kale.

For many of the children, it was their first introduction to where their food comes from," Gilbert said.

When school ended, students' excitement with the garden didn't. All through the summer, children returned to the school to tend the garden, to pull up weeds, and to make sure their vegetables were getting enough water. "Their garden looked better than mine," Gilbert confesses.

This year, Gilbert has a new class of third graders. "When I didn't start my agriculture activities right away," she says, "both the children and the Parents' Association asked me when we would start learning about agriculture." And because so many of Gilbert's "graduates" in fourth grade want to remain involved with agriculture, Gilbert plans to start a 4-H club at the school.

"For urban students, learning about agriculture is exciting — and even a little glamorous," says Betty Wolanyk. Gilbert says her students have learned more than just the facts about agriculture. Many of them, she says, are now considering making a career in agriculture.

Marie Jo Smerichniak, back left, Science Coordinator for District 25, and teacher Rhoda Gilbert with students from P.S. 214 with their garden.



## Seeds From Space Available For U.S. Classrooms

The Space Shuttle Columbia's December mission will launch the SEEDS program, providing U.S. students the opportunity to experiment with seeds that have spent more than five years in space.



A new NASA program hopes to foster the development of young scientists by providing students the opportunity to study tomato seeds that have spent more than five years in space. The Space Exposed Experiment Developed for Students, or SEEDS, is the first experiment ever to study the effects of long-term space exposure on living tissue.

In 1984, a NASA Space Shuttle mission deployed 12.5 million tomato seeds in the Long Duration Exposure Facility, an 11-ton satellite. When the Space Shuttle Columbia is launched on December 18, one of its missions will be to retrieve the satellite.

Space Exposed Experiment Developed for Students

### SEEDS



**NASA**

National Aeronautics and  
Space Administration

NASA Administrator Richard H. Truly said, "Because this is the first opportunity for long-duration space exposure of living tissues, every classroom experiment will be significant. I hope millions of students will experience this hands-on, one-of-a-kind experiment and learn that science is fun."

Following preliminary growth tests conducted by plant scientists,

the seeds will be distributed to educators in late February. Each seed kit will contain 50 flight seeds and 50 control seeds, instructional materials and computerized data collection and reporting booklets.

Students on four educational levels will have the opportunity to participate in SEEDS — grades 5-6, 7-9, 10-12, and higher education. Students will design and conduct their own experiments. Possibilities include comparing flight seeds and control seeds for

- germination rates
- germination times
- seed embryos
- seedling vigor
- photropic responses
- fruit products.

Tomato seeds were chosen because students in all geographic areas are familiar with the plant; it is relatively simple to germinate and grow; it is small enough to permit a large number to be flown; and it has proven to be very hardy.

There is still time to participate in the SEEDS project. Contact NASA for further information, including the grade level of the students who will be using the seeds. Write

NASA SEEDS Project  
Educational Affairs Division  
Code XEO  
NASA  
Washington, DC 20546.

# Indiana Holds Regional Workshops

NOV./DEC. 1989

John Chapman, better known as "Johnny Appleseed," traveled far from his home in Indiana to plant seeds that would later grow into apple trees. This fall, the Indiana Agriculture Awareness Council (IAAC) followed in Chapman's footsteps by establishing a series of five regional agricultural education workshops designed to plant the "seeds" of new curriculum ideas for fourth grade teachers across the state.

The workshops were designed to premiere the newly revised 4th Grade Resource Guide, which has been designed to be used in conjunction with teaching Indiana history. The guide focuses on Indiana agriculture, its importance in the state's development and heritage, and its current impact.

The "hands-on" workshop offered fourth grade teachers an opportunity to participate in a number of mini-workshops. Jane "Abby" Abbott, former state contact for AITC in Indiana, dressed as "Johnny Appleseed" and suggested nutritional and educational activities tied to the apple industry. Linda Dunn, from the Office of School Assistance at the Indiana Department of Education, outlined ways teachers could incorporate lessons on Indiana authors, Indiana history, and Indiana agriculture. Joe Wright, also from the Office of School Assistance, brought educators outside to take a closer look at the soil and the life it supports.

Each teacher who attended the conference received a copy of the new resource guide. The guide was field tested with 50 teachers and contains information on agriculture economics,

Teachers take a close-up look at the earth in a workshop titled "Experiencing the Earth" presented by Joe Wright of the Indiana Department of Education.



Indiana history, pioneer farming, soil conservation, and general agriculture. Also included is an extensive appendix listing other resources and reading materials, as well as information on computer programs available.



Photos: Martin Ross, Indiana Agri-News.

Jane "Abby" Abbott, dressed as Johnny Appleseed, explains how teachers can incorporate activities about apples into their curriculum.

## Scouts Learn About Agribusiness at National Jamboree

At the NGFA Exhibit, Scouts learned that many of their favorite foods were made from grain.

Last summer, when more than 30,000 Scouts from across the nation gathered outside Washington, D.C., for the annual Scout Jamboree, they had an opportunity to learn about America's largest industry ... and complete the requirements for a merit badge at the same time. It was all part of an exhibit sponsored by the National Grain and Feed Association (NGFA) in the Jamboree's Merit Badge Midway.

The NGFA exhibit, designed to help Scouts meet four of the eight requirements for the Agribusiness merit badge, used the theme "Grain — the Foundation of Feed and Food." The exhibit took Scouts through the process that transforms raw commodities into final consumer products.

During the Jamboree, nearly 3,500 Scouts used the exhibit's resources to work on their Agribusiness merit badge. Scouts first learned about agricultural production by seeing seeds, germinated seeds, and three-week-old plants of 20 different grains, including corn, soybeans,



Scouts had an opportunity for some "hands-on" examination of various grains.



Photos: National Grain and Feed Association

canola, barley, and five varieties of wheat. Next came a "hands-on" display where Scouts collected samples of 12 kinds of grain — corn, sorghum, rye, barley, soybeans, oats, sunflowers, flaxseed, canola, and five varieties of wheat.

Later sections of the exhibit showed Scouts the inner workings of a grain elevator, demonstrated grain processing, and illustrated some of the products that use grain products. All Scouts also received information on careers in agribusiness.

"When the Scouts developed the Agribusiness merit badge, NGFA helped identify the important content that should be included," said Rachel Vining, Information and Communications Specialist for NGFA. "So in a way, our involvement at the Jamboree really took us full circle."

## Massachusetts Preschool Teachers

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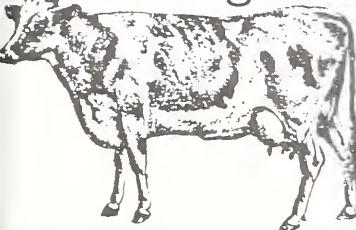
grades." He adds that the biggest difference between preschoolers and primary school students is their attention span. "Activities have to be short, tightly focused, and have an immediate payoff to hold the interest of young children."

Preschoolers now can learn a counting song that also teaches them about the cranberry industry. They can grow sprouts to see how seeds germinate. And they can visit farmers in their area who are interested in talking about agriculture — courtesy of a directory developed by the Massachusetts Farm Bureau.

Hipsley has found that preschool educators are particularly receptive to the training and resources available through the Massachusetts AITC program. "There is no organized method of professional improvement for preschool teachers," he notes. "That presents us with a unique opportunity to get involved." In addition, he adds, in a time when so many children are enrolled in school at a very young age, "we have an obligation and a responsibility to see that preschool teachers have the same resources and materials available to teachers of older children."

# New ARS Discoveries Saving Time . . . and Lives

NOV./DEC. 1989



Anyone who's ever made an early-morning trip to the grocery store to buy milk for breakfast will appreciate a new product developed by U.S. Department of Agriculture scientists: frozen concentrated milk. The new product can be kept in the freezer until it's needed.

Developed by a food technologist working for the Agricultural Research Service (ARS), frozen concentrated milk is one of 35 inventions patented by the agency. "We have had 418 patents granted over the last 10 years," said R. Dean Plowman, ARS Administrator. "These inventions involve new and higher quality products, prevention of diseases in plants and animals, and natural control of pests that harm our environment and food supply."

Although frozen concentrated milk might sound a little farfetched, says Plowman, so did past agency inventions like potato flakes and frozen concentrated orange juice. All are examples of patented research discoveries that

have gone into the marketplace — "and that is something we want to see grow in the future."

Other ARS patented research has led to the following developments:

- Cancer patients may have greater access to taxol, a drug used in clinical trials. An ARS research geneticist has developed a way to mass produce the drug.
- Consumers looking for a strong source of calcium and protein can soon take advantage of a new yogurt-like pudding. Made from non-fat dry milk, sugar, rice flour, gums, and other ingredients, the pudding was developed by an ARS food technologist.
- To curb the threat of salmonella contamination, ARS microbiologists invented and are patenting a bacteria injection method that heads off food poisoning before the chick leaves the egg.

"ARS research is committed to solving agricultural problems that affect farmers, workers, and consumers," Plowman said.

"Our patented research is the keystone of the agency's technology transfer program."

## Minnesota Launches Teaching Awards Program

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Winning entries were drawn from a variety of curricular areas for grades 3-8. Topics included communities, geography, history, economics, soils, land and water, and current events.

As a result of the contest, Withers notes, M-AITC now has added to the curricular resources it can provide to other teachers around the state. "Both M-AITC and the teachers are winners," he concludes.

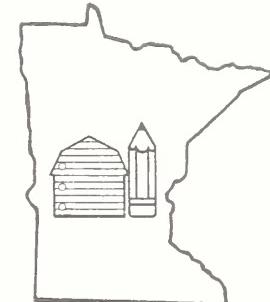
M-AITC has also taken a leadership role in the statewide educational reform movement by developing Model Learner Outcomes for Integrating Agricultural Awareness. "In Minnesota, there is no state-mandated curriculum, and the state does not select textbooks for local school districts," Withers says. Instead, the State Department of Education has moved to develop "learner outcomes" for a variety of curricular areas. "This allows districts flexibility in determining how they will achieve the objectives, but still sets state standards for what students need to know," Withers says.

Although agriculture was not one of the content areas originally included, Withers says that M-AITC wanted to be "on the front burner" of the reform movement. In cooperation with the State Department of Education and M-AITC, a diverse committee of agriculture and education interests met to develop a list of the most important things students need to know about agriculture.

Learner outcomes focus on five key areas:

- General literacy (What is agriculture? Why is it important to me?)
- Historical and cultural significance
- Environmental interdependence and impact
- Global economics
- Careers.

The State Department of Education has approved the learner outcomes, which are now being printed for statewide distribution. For a copy of the model learner outcomes, contact Al Withers, M-AITC, 90 West Plato Boulevard, St. Paul, MN 55107.



# Ag in the Classroom — State Contacts

The individuals listed here are key reference persons in each state. If you have any questions, want to make reports, or need more information about your state's Ag in the Classroom program, contact the following:

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